

Job Title: CIVIL ENGINEER V - HYDRAULICS UNIT CHIEF - IPR#46413

Agency : Department of Transportation

Closing Date/Time: 03/20/2023

Salary: \$6,445 - \$10,210 Monthly

Job Type: Salaried Full Time

County: Lee

Number of Vacancies: 1

Plan/BU: NR916 - Protech Teamsters

This position is a union position; therefore, provisions of the relevant collective bargaining agreement/labor contract apply to the filling of this position.

All applicants who want to be considered for this position MUST apply electronically through the illinois.jobs2web.com website. State of Illinois employees should click the link near the top left to apply through the SuccessFactors employee career portal.

Applications submitted via email or any paper manner (mail, fax, hand delivery) will not be considered.

***This position is covered by the Revolving Door Prohibition Policy.**

Agency Mission Statement:

The Illinois Department of Transportation is seeking to hire a Hydraulics Unit Chief.

The IDOT team works diligently to provide safe, cost-effective transportation for Illinois in ways that enhance quality of life, promote economic prosperity and protect our environment. We are problem solvers and leaders, constantly searching for innovations and improvements in support of our commitment to providing the best multimodal transportation system for Illinois.

Our team fosters a culture of inclusivity. We value diversity and hold ourselves to the highest ethical standards as we work together for a common purpose. Team members frequently collaborate with colleagues and others outside the department to best meet customer needs.

The department offers extensive training and career advancement opportunities. Employees also receive a robust benefit package including:

- Monday-Friday work schedule
- Flexible work schedules are available in many program areas.
- Health, Life, Vision, and Dental Insurance
- Pension Plan
- (10) Weeks paid Maternity/Paternity Leave
- Deferred Compensation Program and other pre-tax benefit programs (Medical/Daycare)
- Employees earn (12) paid Sick Days annually.
- New Employees earn (10) paid Vacation Days their first year of service and can earn up to (25) paid Vacation Days annually.
- Employees earn (3) paid Personal Days annually.
- (13-14) paid holidays annually (based on start date)
- Tuition Reimbursement

We invite qualified applicants to apply to become part of our team. We are confident that you will take pride in serving Illinois and its residents and visitors.

Job Responsibilities

Through the supervision of staff engaged in hydraulic analysis/design, as well as the preparation of construction plans and specifications for hydraulic improvements, this position strives to improve highway safety and operational effectiveness while minimizing any adverse environmental impact on areas adjacent to highway drainage projects.

Staff:

Direct: 1-3

Consultants: 5 – 10

Annual Plan Development:	Seasonal: 1-4 Seasonal: 1-4 9 – 16 in-house plans 15 – 30 consultant plans
Annual Plan Value:	\$10 - \$50 Million per year

This position reports to the Studies & Plans Section Chief. Reporting to this position is the Senior Hydraulics Engineer, Hydraulics Engineer, and the Hydraulics Technician. In addition, this position supervises consulting engineering firms performing drainage structure design.

This position is responsible for the preparation of Hydraulic Studies and Bridge and Culvert Hydraulic Reports, as well as obtaining all required waterway permits to accomplish both the short-term and long-range District Bridge Programs. This position is unique because bridge and hydraulic designs are specialized areas which require specific training and expertise, in addition to the knowledge of roadway design. In order to direct the design and preparation of contract plans needed to accomplish the District Bridge Program, the incumbent must carefully research and evaluate the numerous complex and conflicting rules and regulations which local governmental agencies and drainage districts have established to control land usage. These regulations often create a hostile work environment in which he/she strives to develop acceptable, cost-effective solutions needed for the completion of assigned projects. The incumbent develops adequate justification research to provide sufficient credibility to local agencies and municipalities concerned with possible adverse effects to drainage systems in their area caused by proposed highway improvement.

(Job Responsibilities continued)

Extensive highway systems are subject to critical hydrologic/hydraulic evaluations. Hydrologic and hydraulic studies for all projects qualifying for federal aid or requiring federal action must include an evaluation of all encroachments into a 100-year frequency floodplain. This position is responsible for the proper sizing of bridges and culverts over waterways requiring extensive knowledge of hydraulics and local conditions in order to develop adequate drainage systems which will not adversely affect property owners.

Typical problems include developing timetables for the timely completion of assigned projects; maintaining the flexibility needed to accommodate changes in priorities and/or implement additions/deletions from the program and adjusting to seasonal fluctuations in available staffing. The greatest challenge is resolving technical problems to ensure construction letting deadlines and plan preparation for bridge and hydraulic improvements are met and completed in the most cost-efficient manner.

This position personally coordinates a staff which reviews proposed projects, requests adequate surveys relative to drainage; calculates design run-off, velocities, and hydraulic openings for proposed highway structures; and prepares Hydraulic Reports. This report includes probability risk, floodplain environmental impacts, and possible measures to mitigate impacts. In addition, he/she develops and reviews storm water systems for state highway systems; designs culverts, stilling basins, proper riprap to minimize erosion and retention basins to control high water; reviews private commercial development plans that are adjacent to highways which might affect the State's drainage system; and obtains all necessary waterway permits. The incumbent provides hydraulic expertise for immediate solution to on-site drainage problems for the district. This position confers with other agencies and landowners to solve local drainage problems which require the explanation of complex drainage systems. Failure to convince local landowners of the department's intent can often lead to a delay in the project. As the incumbent is considered the district expert for hydraulics and drainage systems, he/she serves as expert witness in litigation involving the state. The incumbent provides training relative to hydrology and hydraulics. Considerable amounts of review of research publications, special drainage reports, and pertinent literature on products is required. This position is responsible for maintaining awareness of the latest drainage method developments and reviews new material for updating the Department's Drainage Manual. The incumbent serves as departmental representative at public meetings on, as well as meetings with, levee districts and other agencies. He/She performs all scour analysis for waterway crossings and must maintain awareness of changing scour analysis techniques. This position serves as the chairperson of a scour team whose function is to analyze all bridges over waterways for scour potential and recommend corrective measures, if necessary.

(Job Responsibilities continued)

Responsibilities are accomplished with the assistance of:

Senior Hydraulics Engineer who is responsible for preparing hydraulic studies and reports, as well as obtaining all necessary waterway permits.

Hydraulics Engineers who are responsible for assisting the Hydraulics Unit Chief in the design and preparation of plans and reports for drainage structures over water and other major drainage structures, as well as reviewing and supervising work done outside the district office by consulting engineers.

Hydraulics Technician who is accountable for assisting the Hydraulics Unit Chief in the design and preparation of plans and reports for drainage structures over water and other major drainage structures, as well as reviewing and supervising work done outside the district office by consulting engineers.

The incumbent has considerable latitude in accomplishing the objectives utilizing state-of-the-art knowledge of hydraulics and sound engineering practices and judgment. He/She operates within the limits of prescribed departmental/federal design standards and specifications, hydraulic design policies, the Illinois Highway drainage policies/practices, and the regulations placed on the department by the waterway regulatory agencies. He/She has wide latitude in the design of structures within the parameters set by these agencies. Certification by the central Bureau of Bridges and Structures, Hydraulics Section, allows this position to approve, without central office concurrence, hydraulics studies for all superstructure replacements, bridge widening, and structure replacement for those structures not requiring a permit from IDNR. This position also has the authority to perform final review of multiple cell box culverts. The incumbent recommends for approval to the section chief design solutions for resolving conflicting situations and highly technical problems.

(Job responsibilities continued)

Internal contacts include other sections within the Bureau of Program Development for coordination of surveying traffic data, cost estimates, utility adjustments, right-of-way needs, and agreements for structure-related improvements; the Bureau of Project Implementation, Materials Section, for development of structure boring logs; the Bureau of Operations to obtain data for existing structures; the Bureau of Project Implementation, Local Roads and Streets Section, to review local agency hydraulic studies; and the central Bureaus of Bridges & Structures and Design & Environment. External contacts include the IDNR, the Illinois Environmental Protection Agency, the Federal Highway Administration, the U.S. Corps of Engineers, the U.S. Fish & Wildlife, the U.S. Geological Survey, and the U.S. Coast Guard, as well as counties and municipalities, levee districts, consultants, and the general public.

The effectiveness of this position is measured by the incumbent's ability to provide direction to departmental and consulting staff in responding promptly and effectively to drainage problems, meeting established project schedules, and obtaining acceptance of drainage plans by the central office and public/local agencies which facilitate the letting of construction contracts on established schedules and within the restraints of programmed funding.

Principal Accountabilities

1. Supervises the development of bridge and hydraulic reports by district staff and consultants who are utilized to evaluate the scope of work and structure type, size, and location (TS&L). Ensures the accuracy and conformance with State policies and the timely completion of all assignments and correlation of work with other agencies.
2. Provides liaison between the district Bureau of Program Development and consultants on matters pertaining to hydraulic designs. Reviews consultant and state TS&L drawings to ensure proposed structures meet departmental standards and are suitable to the specific site.
3. Grants final approval on the hydraulic reports for all superstructure replacements and bridge widening, box culverts, and all bridges not requiring a IDNR construction permit.
4. Serves as district technical expert to all internal/external sources relative to hydrology, bridge design, and hydraulics.
5. Conducts scour analysis studies to determine susceptibility for flowline degradation and scour.
6. Responsible for reviewing site developments for hydraulic concerns for Utility and Access Permit Sections.
7. Provides for continuous and effective communication with local/state agencies and affected property owners to ensure highway drainage proposals are coordinated and properly address rules, regulations, and concerns. Obtains required permits for bridge construction from federal/state agencies.
8. Maintains state-of-the-art knowledge on hydraulics, hydrology, and bridge design related to both standard and complex transportation systems.
9. Trains and motivates staff to ensure a well-developed, competent staff.
10. Performs duties in compliance with departmental safety rules.
11. Performs all duties in a manner conducive to the fair and equitable treatment of all employees.

12. Performs other duties as required or assigned which are reasonably related to the scope of duties described herein.

Qualifications

Position Requirements

- Current Illinois Professional Engineer license
- Five years of experience in civil engineering
- Valid driver's license.

Position Desirables

- Experience in civil engineering in the specific area of highway engineering, three years of which should have been supervising engineering functions
- Extensive knowledge of the principles and practices of civil engineering
- Ability to develop and maintain cooperative relationships with departmental staff
- Strong oral and/or written communication skills

Work Hours: 8:00 AM - 4:30 PM Monday-Friday

Work Location: 819 Depot Ave Dixon, IL 61021-3546

Office: Office of Highways Project Implementation/Region 2/District 2/Program Development

Agency Contact: DOT.CONTACTHR@ILLINOIS.GOV

Job Family: Transportation; Facility/Fleet Management; Sciences and Natural Resources

APPLICATION INSTRUCTIONS

Use the "Apply" button at the top right or bottom right of this posting to begin the application process.

If you are not already signed in, you will be prompted to do so.

State employees should sign in to the career portal for State of Illinois employees – a link is available at the top left of the Illinois.jobs2web.com homepage in the blue ribbon.

Non-State employees should log in on the using the "View Profile" link in the top right of the Illinois.jobs2web.com homepage in the blue ribbon. If you have never before signed in, you will be prompted to create an account.

If you have questions about how to apply, please see the following resources:

State employees: Log in to the career portal for State employees and review the Internal Candidate Application Job Aid

Non-State employees: on Illinois.jobs2web.com – click "Application Procedures" in the footer of every page of the website.

The main form of communication will be through email. Please check your "junk mail", "spam", or "other" folder for communication(s) regarding any submitted application(s). You may receive emails from the following addresses:

- donotreply@SIL-P1.ns2cloud.com
- systems@SIL-P1.ns2cloud.com